Title (en)

ELUCIDATION OF NOVEL 13-SERIES RESOLVINS THAT INCREASE WITH ATORVASTATIN AND CLEAR INFECTIONS

Title (de)

STRUKTURAUFKLÄRUNG VON NEUARTIGEN 13-SERIE-RESOLVINEN, DIE SICH MIT ATORVASTATIN ERHÖHEN UND INFEKTIONEN BESEITIGEN

Title (fr)

ÉCLAIRCISSEMENT DE NOUVELLES RÉSOLVINES DE SÉRIE 13 AUGMENTANT AU MOYEN DE L'ATORVASTATINE ET ÉLIMINANT LES INFECTIONS

Publication

EP 3325438 A1 20180530 (EN)

Application

EP 16828406 A 20160719

Priority

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- US 2016042932 W 20160719

Abstract (en)

[origin: WO2017015271A1] Endogenous mechanisms leading to host protection and resolution of infections without immunosuppression are of wide interest. Here we elucidated the structures of four new host-protective molecules produced in neutrophil-endothelial co-cultures, and present in human and mouse tissues after sterile inflammation or infection. These bioactive molecules contained conjugated triene and diene double bonds with each carrying a 13-carbon position alcohol and were derived from n-3 docosapentaenoic acid (DPA, C22:5). These compounds, termed 13-series resolvins (RvT), demonstrated potent protective actions increasing mice survival during Escherichia coil infections. RvT also regulated human and mouse phagocyte responses stimulating bacterial phagocytosis and regulating inflammasome components. Their biosynthesis during neutrophil-endothelial cell interactions was initiated by endothelial cyclooxygenase-2 (COX-2) and increased by atorvastatin via S-nitrosylation of COX-2. The actions of atorvastatin and RvT were additive in E.coli infections in mice where they accelerated resolution of inflammation and increased survival >60%.

IPC 8 full level

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CPC (source: EP US)

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